AMENDMENTS TO THE CLAIMS

1. (canceled)

2. (previously presented) A semiconductor laser that modulates from a first level to a second level, comprising:

a diffraction grating for effecting distribution feedback, said diffraction grating having a normalized coupling coefficient kL of at least 2.0, said diffraction grating having a phase shift region disposed therein for achieving a phase shift of at most $\lambda/4$; and

an active layer including a multiple quantum well structure, having a gain saturation coefficient of greater than 0, such that said gain is saturated as a carrier concentration in the active layer increases.

3. (original) A semiconductor laser according to claim 2, further comprising a resonator, said phase shift region being disposed nearly centrally in said resonator.

4. (previously presented) A semiconductor laser, comprising:

a diffraction grating for effecting distribution feedback, said diffraction grating having a normalized coupling coefficient kL of at least 2.0, said diffraction grating having a phase shift region disposed therein for achieving a phase shift of at most $\lambda/4$; and

an active layer including a gain, which is saturated as a carrier concentration in the active layer increases,

wherein said active layer includes a multiple quantum well structure having growth surface irregularities.

5. (previously presented) A semiconductor laser, comprising:

a diffraction grating for effecting distribution feedback, said diffraction grating having a normalized coupling coefficient kL of at least 2.0, said diffraction grating having a phase shift region disposed therein for achieving a phase shift of at most $\lambda/4$;

an active layer including a gain, which is saturated as a carrier concentration in the

active layer increases; and

a resonator, said phase shift region being disposed nearly centrally in said resonator,

wherein said active layer includes a multiple quantum well structure having growth surface irregularities.

6. (previously presented) A semiconductor laser, comprising:

a diffraction grating for effecting distribution feedback, said diffraction grating having a normalized coupling coefficient kL of at least 2.0, said diffraction grating having a phase shift region disposed therein for achieving a phase shift of at most $\lambda/4$; and

an active layer including a gain, which is saturated as a carrier concentration in the active layer increases,

wherein said active layer includes a multiple quantum well structure comprising two stage potential quantum wells.

7. (previously presented) A semiconductor laser, comprising:

a diffraction grating for effecting distribution feedback, said diffraction grating having a normalized coupling coefficient kL of at least 2.0, said diffraction grating having a phase shift region disposed therein for achieving a phase shift of at most $\lambda/4$;

an active layer including a gain, which is saturated as a carrier concentration in the active layer increases; and

a resonator, said phase shift region being disposed nearly centrally in said resonator,

wherein said active layer includes a multiple quantum well structure comprising two stage potential quantum wells.

8. (previously presented) A semiconductor laser, comprising:

a diffraction grating for effecting distribution feedback, said diffraction grating having a normalized coupling coefficient kL of at least 2.0, said diffraction grating having a phase shift region disposed therein for achieving a phase shift of at most $\lambda/4$; and

an active layer including a gain, which is saturated as a carrier concentration in the active layer increases,

wherein said active layer includes a multiple quantum well structure including a non-radiative carrier recombination layer.

9. (previously presented) A semiconductor laser, comprising:

a diffraction grating for effecting distribution feedback, said diffraction grating having a normalized coupling coefficient kL of at least 2.0, said diffraction grating having a phase shift region disposed therein for achieving a phase shift of at most $\lambda/4$;

an active layer including a gain, which is saturated as a carrier concentration in the active layer increases; and

a resonator, said phase shift region being disposed nearly centrally in said resonator,

wherein said active layer includes a multiple quantum well structure including a non-radiative carrier recombination layer.

10. (previously presented) A semiconductor laser, comprising:

a diffraction grating for effecting distribution feedback, said diffraction grating having a normalized coupling coefficient kL of at least 2.0, said diffraction grating having a phase shift region disposed therein for achieving a phase shift of at most $\lambda/4$; and

an active layer including a gain, which is saturated as a carrier concentration in the active layer increases,

wherein said active layer includes a multiple quantum well structure which is progressively thicker toward the center of the semiconductor laser in the axial direction of the resonator.

11. (previously presented) A semiconductor laser, comprising:

a diffraction grating for effecting distribution feedback, said diffraction grating having a normalized coupling coefficient kL of at least 2.0, said diffraction grating having a phase shift region disposed therein for achieving a phase shift of at most $\lambda/4$;

an active layer including a gain, which is saturated as a carrier concentration in the active layer increases; and

a resonator, said phase shift region being disposed nearly centrally in said resonator,

wherein said active layer includes a multiple quantum well structure which is progressively thicker toward the center of the semiconductor laser in the axial direction of the resonator.

12. (original) A digital optical communication system comprising a semiconductor laser according to claim 2 as a communication light source.

13. (original) A digital optical communication system comprising a semiconductor laser according to claim 3 as a communication light source.

14. (canceled)

15. (canceled)